Quiz 1:

In relational data model, an attribute is a column

[A]

True

[B]

False *

A data model is a notation for describing data or information. And the description generally consist of:

[A]

2 parts

[B]

3 parts *

[C]

4 parts

[D]

5 parts

DBMS stands for what?
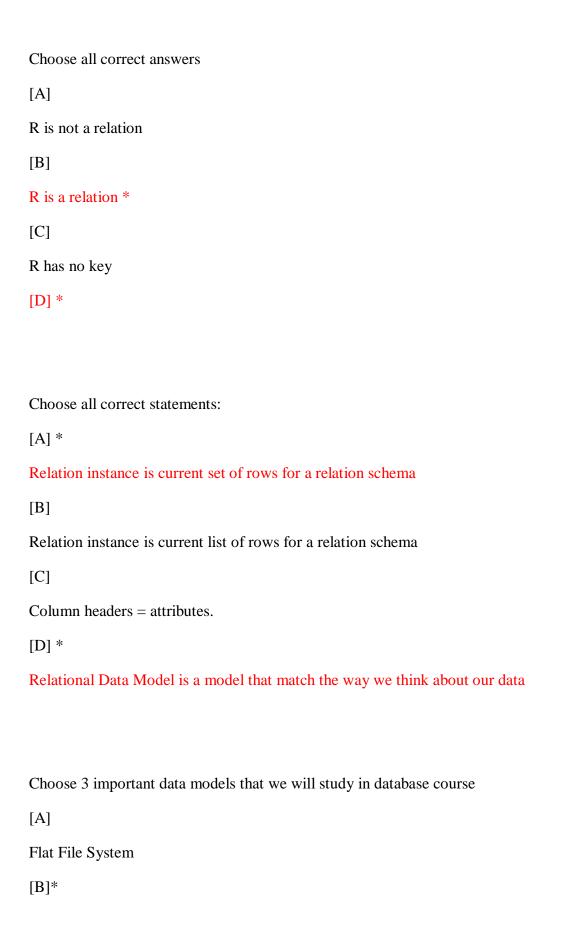
[A]

Database Managing Systems

[B]

Database Management System *

[C]

Database Manage System

[D]

Database Managable System

Look at this line:

MOVIES (Id, Name, Description)

What the above represent?

[A]

A relation

[B]

A schema *

[C]

A schema instance

[D]

A relation instance

Look at the following data for table R:

A	B	C
1	1	2
1	1	2
1	1	3

Choose all correct answers

[A]

R is not a relation

[B]

R is a relation *

[C]

R has no key

[D] *

Choose all correct statements:

[A] *

Relation instance is current set of rows for a relation schema

[B]

Relation instance is current list of rows for a relation schema

[C]

Column headers = attributes.

[D] *

Relational Data Model is a model that match the way we think about our data

Choose 3 important data models that we will study in database course

[A]

Flat File System

[B]*

[C]*

[D]*

[E]

Object - Relational Data Model

[F]

Object Oriented Data Model

In relational data model, a tuple is a record or a row

[A]*

[B]

False

When the Relational Data Model first proposed?

[A]

1940

[B]

1950

[C]

1960

[D]*

1970

What is the oldest data model?

[A]*

Network Data Model

[B]

Flat File Data Model

[C]

Relational Data Model

[D]

Hierachical Data Model

How many data models mentioned in our database course?

[A]

3

[B]

4

[C]

5

[D]*

XML files are semi-structured data

[A]*

True

[B]

False

A relation is a list of tuples

[A]

True

[B]*

False

A relation is a set of tuples

[A]*

True

[B]

False

What is the father of relational data model?

[A]

Charles Bachman

[B]*

In relational data model, an attribute is a column

[A]

True

[B]*

A data model is a notation for describing data or information. And the description generally consist of:

[A]

2 parts

[B]*

[C]

4 parts

[D]

5 parts

Quiz2

A weak entity:

[A]

must have total participation in an identifying relationship

[B]

does not have a key attribute(s)

[C]*

both (a) and (b)

[D]

none of the above

Give the relation R(XYZT) with the following FD's:

XY -> Z ; XYT -> Z ; XYZ -> T ; XZ -> T

Determine the primary key for R and then choose the correct statement

[A]

R is in BCNF

[B]*

R is not in BCNF

Given the relation schema R(XYZT) and functional dependencies

F = {X->Z, T->Y}.

Which functional dependency causes a violation of second normal form (2NF) ?

[A]

X->Z

[B]

T->Y

[C]*

both X->Z and T->Y

[D]

none of the above

The highest normal form for relation schema R(XYZ) with functional dependencies:

F = {XY-> Z;   Y->X;   Z->Y } is:

[A]

2NF

[B]

BCNF

[C]

1NF

[D]*

3NF

Give the relation R(EFGH) with the following FD's:

E -> F ; F -> E ; E -> H ; H -> F

Determine the keys for R and then choose the correct statement

[A]

R is not in 3NF

[B]*

R is in 3NF

Give the relation R(ABCDE) with the following FD's:

D -> C, CE-> A, D ->A, and AE ->D

indicating which of the following attribute set is a key?

[A]

ABCDE

[B]

CDE

[C]*

ABE

[D]

BD

Which of the following relations is in Third normal form (3NF)?

[A]

R(ABCD) with FD's: AB -> C ; ABD -> C ; ABC -> D ; AC -> D

[B]*

R(ABCD) with FD's: ACD -> B ; AC -> D ; D -> C ; AC -> B

[C]

R(ABCD) with FD's: AB -> C ; BCD -> A ; D -> A ; B -> C

Let R(ABCDEFGH) satisfies the following functional dependencies:

A -> B, CH -> A, B -> E, BD -> C, EG -> H, DE -> F.

Which of the following FD's is also guaranteed to be satisfied by R?

[A]*

ADG -> CH

[B]

ACG -> DH

[C]

CGH -> BF
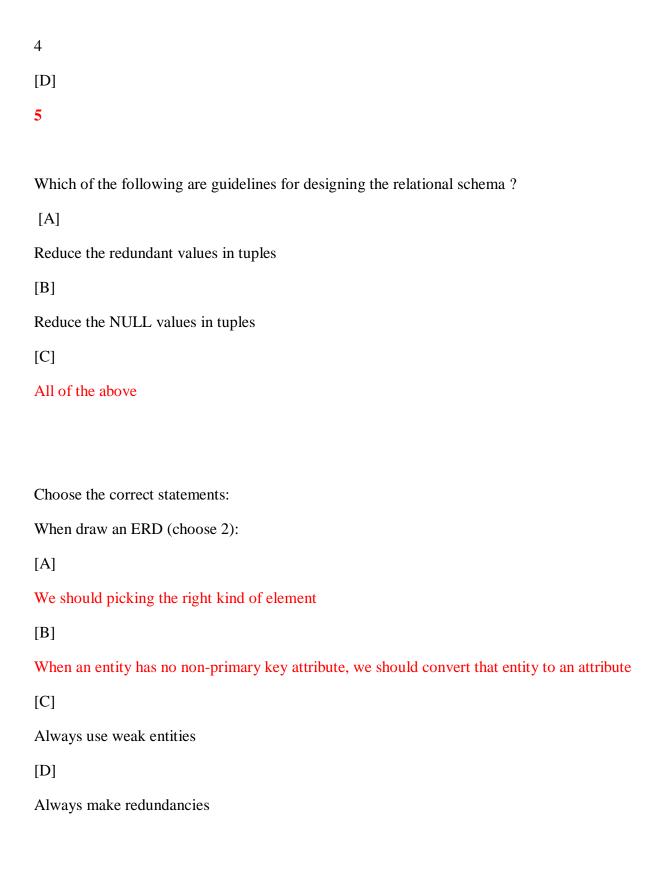
[D]

BCD -> FH

Which of the following statements are correct? (choose 2)

[A]*

All relations with only two attributes are in BCNF

[B]*

For any relation schema, there is a dependency-preserving decomposition into 3NF

[C]

All relations in 3NF are also in BCNF

Which of the following relations is in Boyce-Codd Normal Form (BCNF)?

[A]

R(ABCD) with FD's: BC -> A ; AD -> C ; CD -> B ; BD -> C

[B]*

R(ABCD) with FD's: BD -> C ; AB -> D ; AC -> B ; BD -> A

[C]

R(ABCD) with FD's: C -> B ; BC -> A ; A -> C ; BD -> A

Quiz4

How many design principles are there in our course when drawing an ERD?

[A]

7

[B]

6

[C]

4

[D]

5

Which of the following are guidelines for designing the relational schema ?

 [A]

Reduce the redundant values in tuples

[B]

Reduce the NULL values in tuples

[C]

All of the above

Choose the correct statements:

When draw an ERD (choose 2):

[A]

We should picking the right kind of element

[B]

When an entity has no non-primary key attribute, we should convert that entity to an attribute

[C]

Always use weak entities

[D]

Always make redundancies

Given relation scheme R = (XYZTV) and functional dependencies:

{XY -> ZTV and X -> V}. So, we can say that:

[A]

X is a key for R

[B]

YV is a key for R

[C]

XY is a key for R

[D]

none of the above

Consider a relation R(A,B,C,D,E) with functional dependencies:

AB->C, B->D, and C->E.

What is/are the key(s) for R (maybe you must choose 1 or more):

[A]

AC

[B]

AD

[C]

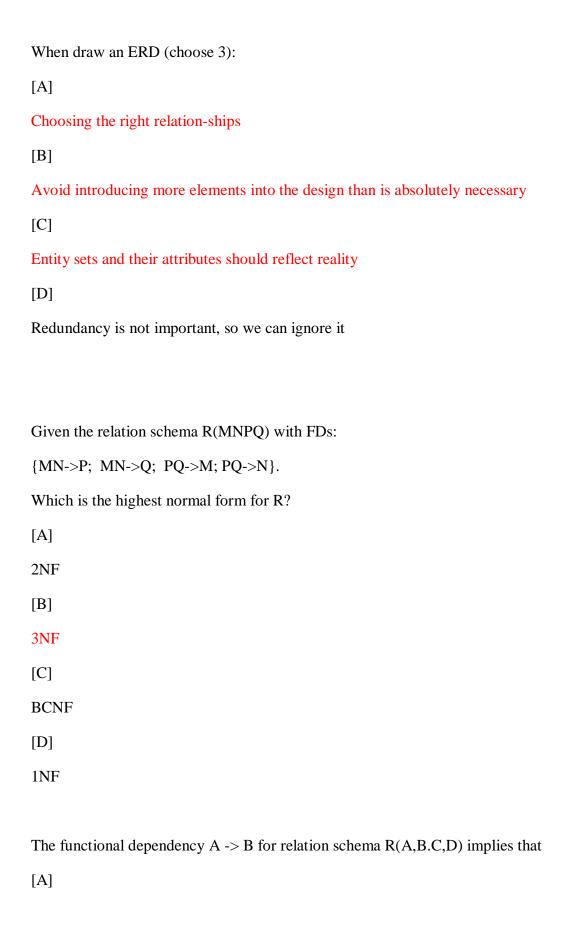AB

[D]

CD

[E]

DE

The ER model means that:

[A]

replace relational design

[B]

be close to a users perception of the data

[C]

enable low level descriptions of data

[D]

enable detailed descriptions of data query processing
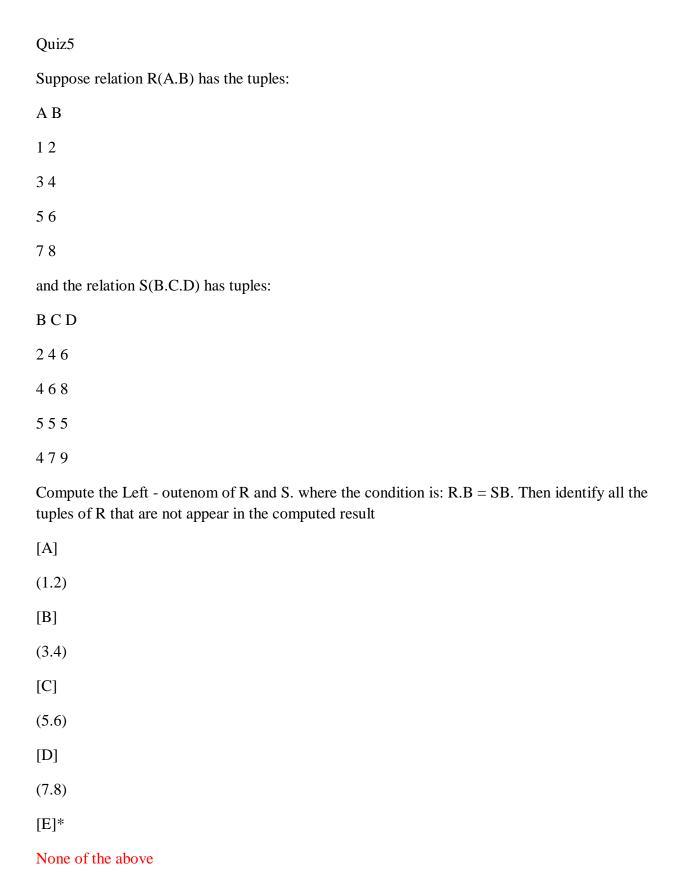
Consider the following statement:

"When drawing ERD, you should avoid saying something in many different ways'

That above statement describes which principle?

[A]

Simplicity Count Principle

[B]

Limit the use of weak entity sets principle

[C]

Avoid Redundancy Principle

[D]

Faithfulness principle

Consider the following statement:

"Entity Sets and their attributes should reflect the reality"

That above statement describes which principle?

[A]

Limit the use of weak entity sets principle

[B]

Simplicity Count Principle

[C]

Avoid Redundancy Principle

[D]

Faithfulness principle

Choose the correct statements:

When draw an ERD (choose 3):

[A]

Choosing the right relation-ships

[B]

Avoid introducing more elements into the design than is absolutely necessary

[C]

Entity sets and their attributes should reflect reality

[D]

Redundancy is not important, so we can ignore it

Given the relation schema R(MNPQ) with FDs:

{MN->P; MN->Q; PQ->M; PQ->N}.

Which is the highest normal form for R?

[A]

2NF

[B]

3NF

[C]

BCNF

[D]

1NF

The functional dependency A -> B for relation schema R(A,B.C,D) implies that

[A]

no two tuples in R can have the same value for attribute B

[B]

No two tuples in R can have the same value for attribute A

[C]

any two tuples in R that have the same value for B must have the same value for A

[D]

Any two tuples in R that have the same value for A must have the same value for B

How many primitive relational algebra operators are there in our course?

[A]

4

[B]

5

[C]*

6

[D]

7

Quiz5

Suppose relation R(A.B) has the tuples:

A B

1 2

3 4
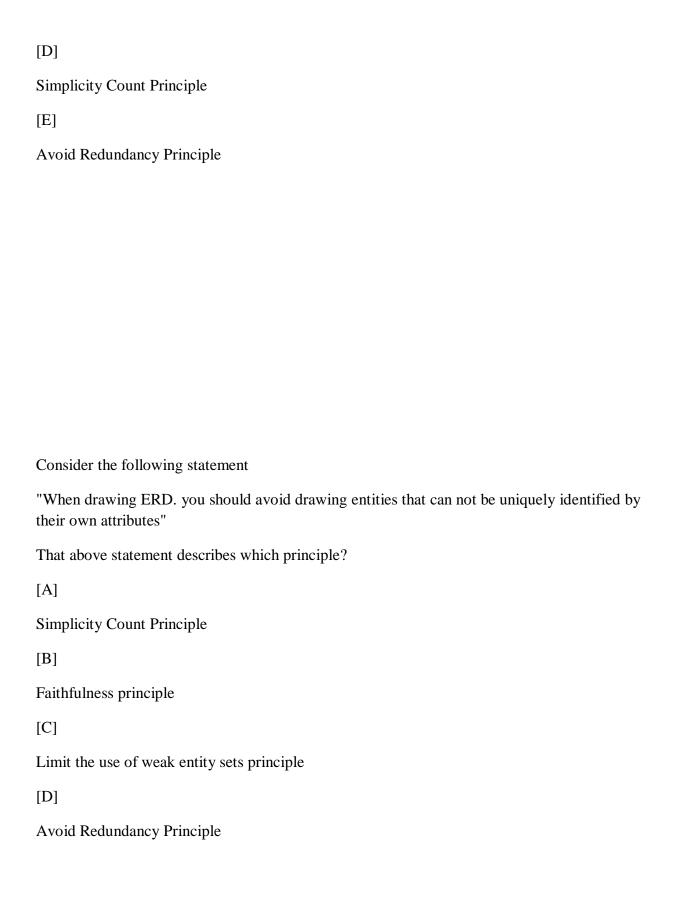
5 6

7 8

and the relation S(B.C.D) has tuples:

B C D

2 4 6

4 6 8

5 5 5

4 7 9

Compute the Left - outenom of R and S. where the condition is: R.B = SB. Then identify all the tuples of R that are not appear in the computed result

[A]

(1.2)

[B]

(3.4)

[C]

(5.6)

[D]

(7.8)

[E]*

None of the above

Suppose relation R(A.B) has the tuples:

A	B
1	2
3	4
5	6

and the relation S(B.C.D) has tuples:

B	C	D
2	4	6
4	6	8
4	7	9

Compute the natural join of R and S.

Then, identify which of the following tuples is/are in the natural joinR|><| S. You may assume each output tuple has schema (A.B.C.D)

[A]*

(3.4.6.8)

[B]*

(12.4.6)

[C]

(1.4.6.8)

[D]

(1.2.6.8)

Consider the following statement

"When drawing ERD. you should avoid introducing more elements into your design than necessary"

That above statement describes which principle?

[A]

Limit the use of weak entity sets principle

[B]

Faithfulness principle

[C]

Avoid Redundancy Principle

[D]

Simplicity Count Principle

Suppose relation R(A.B) has the tuples:

B	C	D
2	4	6
4	6	8
4	7	9

A	B
1	2
3	4
5	6

and the relation S(B.C.D) has tuples:

Compute the join of R and S with the condition: R.A < S.C AND R.B < S D Then, identify from the list below all the tuples in the computed result (assume the schema of the result is (A. R.B. S.B. C. D)):

[A]

(1.2.2.6.8)

[B]

(5.62.4.6)

(C]

(1.2.4.6.8)

[D]

(1.2.2.4.6)

Suppose relation R(A.B) has the tuples:

A	B
1	2
3	4
5	6
7	8

and the relation S(B.C.D) has tuples:

B	C	D
2	4	6
4	6	8
5	5	5
4	7	9

Compute the right - outerjoin of R and S. where the condition is: R.B = S.B. Then identify all the tuples of R that are not appear in the computed result

[A]

(5.6)

[B]

(1.2)

[C]

(7.8)

[D]

(3.4)

Consider the following statement

"When drawing ERD. if an entity has no non-key attribute and it is the "one" in many-one relationship, then we should set r! to the attribute of other entities"

That above statement describes which principle?

[A]

Picking the right kind of element principle

[B]

Faithfulness principle

[C]

Limit the use of weak entity sets principle

[D]

Simplicity Count Principle

[E]

Avoid Redundancy Principle

Consider the following statement

"When drawing ERD. you should avoid drawing entities that can not be uniquely identified by their own attributes"

That above statement describes which principle?

[A]

Simplicity Count Principle

[B]

Faithfulness principle

[C]

Limit the use of weak entity sets principle

[D]

Avoid Redundancy Principle

<u>Quiz 6</u>

Cau 1:

The LEN function in SQL Server is:
[A]
Not a scalar function
[B]
A scalar function

Cau 2:

What is the meaning of the LEN function in SQL Server?
[A]
The LEN function returns the total number of bytes used to store a string
[B]
The LEN function returns the total number of characters of a string

Cau 3:

How to remove all trailing blanks?
[A]
We can use the RTRIM function
[B]
We can use the LTRIM function

Cau 4:

The following is the syntax for the DATEDIFF function:
DATEDIFF (datepart, startdate , enddate)
The datepart parameter specifies on which part (day, month, year) of the date to calculate the difference

[A]
FALSE
[B]
TRUE

Cau 5:

How to remove all leading blanks?
[A]

We can use the RTRIM function
[B]
We can use the LTRIM function

Cau 6:

What is the meaning of the ISNULL function?
[A]
The ISNULL function replaces NULL with the ZERO value.
[B]
The ISNULL function replaces NULL with the BLANK value
[C]
The ISNULL function replaces NULL with the specified replacement value.

Cau 7:

Which of the following is in-correct?
[A]
SELECT datepart(dd, 'l-jan-09')
[B]
SELECT datepart(d, 'l-jan-09')
[C]
SELECT datepart('1-jan-09', day)
[D]
SELECT datepart(day, 'l-jan-09')

Cau 8:

Which of the following is in-correct?
[A]
SELECT datepart(year, '1-jan-09'}
[B]
SELECT datepart{YY, 'l-jan-09')
[C]
SELECT datepart(YYYY, 'l-jan-09';
[D]
SELECT datepart('1-jan-09', year)

Cau 9:

Which of the following is in-correct?
[A]

SELECT datepart(month, '1-jan-09')
[B]
SELECT datepart('1-jan-09', month)
[C]
SELECT datepart(MM, 'l-jan-09')
[D]
SELECT datepart(M, '1-jan-09')

Cau 10:

How to convert a number to a string? (choose all possible)
[A]
We can use the CONVERT function
[B]
We can use the CAST function
[C]
We can use the STR function

Cau 11:

What is the meaning of the DATEADD function?
[A]
The DATEADD function adds some years to a date you specify
[B]
The DATEADD function adds some months to a date you specify
[C]
The DATEADD function adds an interval to a date you specify
[D]
The DATEADD function adds some days to a date you specify

Cau 12:

The CASE function is used to Evaluates a list of conditions and returns one of multiple possible result expressions
[A]
FALSE
[B]
TRUE

Quiz 7:

Cau 1:

In SQL Server, an index is an on-disk structure associated with a table or view that speeds up retrieval of rows from the table or view
[A]
TRUE
[B]
FALSE

Cau 2:

Clustered index is not a good choice for the columns that undergo frequent changes
[A]
TRUE
[B]
FALSE

Cau 3:

A table or view must have a clustered indexe and some non-clustered indexes
[A]
TRUE
[B]
FALSE

Cau 4:

SQL Server typically selects the most efficient method when executing queries. However, if no indexes are available. SQL Server must use a full table scan
[A]
TRUE
[B]
FALSE

Cau 5:

How many clustered index we can create in a table?
[A]
1
IB]
2
[C]
3
[D]
4
[E]

As much as you want

Cau 6:

Indexes can be helpful for a variety of queries that contain SELECT, UPDATE, or DELETE statements
[A]
TRUE
[B]
FALSE

Cau 7:

In SQL Server, indexes are automatically created when PRIMARY KEY and UNIQUE constraints are defined on table columns
[A]
TRUE
[B]
FALSE

Cau 8:

In reality, an incorrect index choice can cause less than optimal performance
[A]
TRUE
[B]
FALSE

Cau 9:

You should define the clustered index key with as few columns as possible
[A]
TRUE
[B]
FALSE

Cau 10:

Choose the incorrect statement
[A]
Clustered indexes sort and store the data rows in the table based on their key values
[B]

Non-Clustered indexes sort and store the data rows in the table based on their key values
[C]
None of the above

Cau 11:

An index contains keys built from one or more columns in the table or view. These keys are stored in a structure (B-tree) that enables SQL Server to find the row or rows associated with the key values quickly and efficiently
[A]
TRUE
[B]
FALSE

Cau 12:

When performing a table scan, the query optimizer reads all the rows in the table, and extracts the rows that meet the criteria of the query. A table scan generates any disk I/O operations and can be resource -intensive
[A]
TRUE
[B]
FALSE

Cau 13:

Choose the correct statement
[A]
Clustered indexes son and store the data rows in the table based on their key values
[B]
Non-Clustered indexes sort and store the data rows in the table based on their key values
[C]
Both of the above

Cau 14:

Well-designed indexes can reduce disk I/O operations and consume fewer system resources, therefore it improves query performance
[A]
TRUE
[B]
FALSE

Cau 15:

Choose all the correct statements about indexes
[A]
The selection of the right indexes for a database and its workload is a complex balancing act between query speed and update cost
[B]
Designing efficient indexes is paramount to achieving good database and application performance
[C]
Poorly designed indexes and a lack of indexes are primary sources of database application bottlenecks.

Quiz 8:

Cau 1:

How to build a good performance database?
[A]
We can upgrade the hardware and then the performance is improved
[B]
We can do the tunning to improve the performance once the DB development is complete
[C]
None of the above

Cau 2:

We should use which function to get the number of rows affected by the last statement
[A]
@@IDENTITY
[B]
@@ROWCOUNT
[C]
@@ERROR
[D]
@@NEWID

Cau 3:

How to write a good performance SQL query?
[A]
Always use "SELECT *"
[B]
Always try to avoid using "SELECT *"

Cau 4:

A bad database can be tunned if we upgrade the hard-ware
[A]
TRUE
[B]
FALSE

Cau 5:

Choose all the thing that we should do with SQL Server:
[A]
We should know how to read the execution plan
[B]
We should use the foreign key constraints
[C]
We should normalize the database to BCNF

Cau 6:

Choose the correct answer
[A]
Normalize the database to 3NF
[B]
Avoid database designs that move data from table to table in a transactional manner
[C]
None of the above
[D]
All of the above

Cau 7:

How to avoid locking? (choose all correct answers)
[A]
Check the transaction isolated level and make sure it's not any higher than required
[B]
Make sure transactions begin and commit quickly
[C]
Redesign any transaction that includes a cursor
[D]
Create an index on the "Sex" column

Cau 8:

Choose all the thing that we should do with SQL Server
[A]
Use the tools
[B]
Use cursors as much as possible
[C]
Use "SELECT for every SELECT statement
[D]
Create an index on the "SEX" column

Cau 9:

We should use which function to get the last-inserted identity value.
[A]
@@IDENTITY
[B]
@@ROWCOUNT
[C]
@@ERROR
[D]
@@NEWID

Cau 10:

A Database is called having good performance if
[A]
The Database runs fast
[B]
The response time is very small
[C]
None of the above

Cau 11:

Choose all the thing that we should not do with SQL Server:
[A]
Don't use transaction
[B]
Don't testwith large databases because it will make the project delayed
[C]
Don't use the TEXT data type
[D]

Don't you temporary tables

Cau 12:

To improve the DB performance:
[A]
We should you the set-based queries and avoids procedural (row-by-row) queries
[B]
We should you the row-based queries and avoids set-based queries

Cau 13:

Choose all the correct answers:
[A]
Create every primary key as a clustered index
[B]
Create a clustered index for every table
[C]
Cluster the most common ORDER BY columns, don't cluster the primary key

Quiz 9:

Cau 1:

Regardless of what any other transaction is doing, a transaction must be able to continue with the exact same data£ sets it started with.
The above describes which property of a transaction?
[A]
Isolation
[B]
Consistency
[C]
Atomic
[D]
Durability

Cau 2:

Every row and value must agree with all constraints once the transaction is complete.
The above describes which property of a transaction?
[A]
Durability
[B]

Consistency
[C]
Atomic
[D]
Isolation

Cau 3:

The DB product must be constructed so that even if the data drive melts, the DB can be restored up to the last transaction that was committed a split second before the hard drive died
The above describes which property of a transaction?
[A]
Isolation
[B]
Consistency
[C]
Durability
[D]
Atomic

Cau 4:

Which is the most dangerous fault that can potentially affect the integrity of a transaction?
[A]
Non-repeatable reades
[B]
Dirty Read
[C]
Phantom rows

Cau 5:

How many properties we must use to measured the quality of a transaction?
[A]
5
[B]
6
[C]
3
[D]
4

Cau 6:

Once a transaction is committed, it stays committed
The above describes which property of a transaction?
[A]
 Atomic
(B)
Isolation
[C]
Consistency
[D]
Durability

Cau 7:

Choose all correct statements
[A]
When the sequence of tasks is complete, the SAVE POINT closes the transaction
[B]
COMMITTING a transaction makes permanent changes resulting from all SQL statements in the transaction
[C]
ROLLING back a transaction rejects any of the changes resulting from the SQL statements in the transaction
[D]
In SQL Server, every DML operation is a transaction whether it has a BEGIN TRANSACTION or not

Cau 8:

Please choose 3 properties of a lock in DBMS
[A]
Mode - the size of the lock
[B]
Mode -the isolation mode of the lock
[C]
Duration - the isolation mode of the lock
[D]
Granularity - the type of the lock
[E]
Mode - the type of the lock
[F]
Granularity-the size of the lock

Cau 9:

Which is the least dangerous fault that can potentially affect the integrity of a transaction?
[A]
Phantom rows
[B]
Dirty Read
[C]
Non-repeatable reads

Cau 10:

Each transaction must be isolated or separated from the effects of other transaction
The above describes which property of a transaction?
[A]
Durability
[B]
Isolation
[C]
Atomic
[D]
Consistency

Cau 11:

At the end of the transaction, either all statements of the transaction is successful or all statements of the transaction fail.
The above describes which property of a transaction?
[A]
Isolation
[B]
Atomic
[C]
Consistency
[D]
Durability

Quiz 10:

Cau 1:

When sorting. Null values are treated as the lowest possible values
[A]
TRUE
[B]
FALSE

Cau 2:

Except for COUNT, aggregate functions ignore null values
[A]
TRUE
[B]
FALSE

Cau 3:

How to returns a part of a character, binary, text or image?
(For example: how to get the 'bcd' in 'abcdef' string)
[A]
Use the RIGHT function
IB]
Use the LEFT function
[C]
Use the LEN function
[D]
Use the SUBSTRING function

Cau 4:

Suppose R and S are 2 relations How to get the result of {R\S}?
[A]
We can use the UNION operator
[B]
We can use the EXCEPT operator
[C]
We can use the DIFFERENCE operator
[D]
We can use the MINUS operator

Cau 5:

The ORDER BY clause can not include items not appearing in the select list
[A]
TRUE
[B]
FALSE

Cau 6:

RANK() and ROW_NUMBER() are 2 ranking functions
[A]
TRUE
[B]
FALSE

Cau 7:

We can use the Aggregation in WHERE clause
[A]
TRUE
[B]
FALSE

Cau 8:

How to get the information about the number of attempted connections, either successful or unsuccessful since SQL Server was last started
[A]
Use the @@ERROR
[B]
Use the @@IDENTITY
[C]
Use the @@VERSION
P]
Use the @@CONNECTIONS

Cau9:

A trigger is a special kind of stored procedure that automatically executes when an event occurs in the database server
[A]
TRUE
[B]
FALSE

Cau 10:

The RANK() function returns the rank of each row within the partition of a result set
[A]
TRUE
[B]
FALSE

Cau 11:

|How to get the information about the version, processor architecture, build date, and operating system for the current installation of SQL Server
[A]
Usethe@@ERROR
[B]
Usethe @@IDENTITY
[C]
Usethe @@VERSION
[D]
Usethe @@CONNECTIONS

Cau 12:

When create stored procedures, the "WITH ENCRYPTION" option indicates that SQL Serverwill convert the original text of the CREATE PROCEDURE statement to an obfuscated format
[A]
TRUE
[B]
FALSE

Cau 13:

The maximum nested level of a Transact-SQL stored procedure is 64MB
[A]
TRUE
[B]
FALSE

Cau 14:

In SQL Server, we can use the ORDER BY clauses in sub-queries
[A]
TRUE
[B]
FALSE

Cau 15:

The maximum size of a Transact-SQL stored procedure is 256MB
[A]

TRUE
[B]
FALSE

Cau 16:

Choose the correct statement
[A]
Aggregate functions perform a calculation on a set of values and return a single value
[B]
Except for COUNT, aggregate functions ignore null values
[C]
Aggregate functions are frequently used with the GROUP BY clause of the SELECT statement
[D]
All of the above

==

Choose a right answer.
[A]
A SQL environment is the framework under which data may exist and SQL operations on data may be executed
[B]*
All of the others
[C]
Within a SQL environment are two special kinds of processes: SQL clients and SQL servers.
[D]
A SQL environment is a DBMS running at some installation.

Schema-altering commands are known as……commands.
[A]
Data Manipulation Language
[B]
Data Controlling Language
[C]*
Data Definition Language
[D]
None of the others

Referential integrity Constraints control relationships between _.

[A]
operations of an object
[B]*
tables in a database
[C]
attributes in a table
[D]
database instances

Choose the right statement below to declare zero or one occurrence of an Element in DTD.

[A]

<"ELEMENT element-name (child-name?)>

[B]
<IELEMENT element-name (child-name+)>
[C]
<IELEMENT element-name (child-name*)>
[D]
<IELEMENT element-name (child-name)>

Given the relation Employee(SSN. FNAME. LNAME. SALARY). Select the right query below to find the employee(s) who has the lowest salary in the company
[A]*
SELECT LNAME. FNAME. SALARY FROM Employee WHERE SALARY IN (SELECT MIN(SALARY) FROM Employee)
[B]
SELECT LNAME. FNAME. SALARY FROM Employee WHERE SALARY >= ALL (SELECT SALARY FROM Employee)
[C]
SELECT LNAME. FNAME. SALARY FROM Employee WHERE SALARY < MAX (SELECT SALARY FROM Employee)
[D]
None of the others

Given a relation R(A.B.C.D). Which of the followings is trivial?
[A]
A->BCD
[B]*
A->->BCD

[C]
A->AB
[D]
A->->AB

Which of the following is NOT a standard aggregation operator?
[A]
SUM
[B]
AVG
[C]*
GROUP
[D]
COUNT

Select the well-formed XML
[A]
All of the others
[B]*
<? xml version = "1.0" ?>
<MovieData>
<Movie title="StarWar*"><Year>1997</Year></Movie>
</MovieData>
[C]
<? xml version - "1 0' ?>
<MovieData>
<Movie Me-'StarWaf*"><Year>1997</Year></Movie>
</Movies>
[D]
<? xml version = 1 0 7>
<MovieData>
<Movie trtle-"StarWar"><Year>1997</Movie></Year>
</MovieData>

Which of the fallowings is true?
[A]*
The Entity Relationship (ER) model represents the structure of data graphically
[B]

The ER model is a low level database design
IC]
The ER model represents the operation on data
[D]
All of the others

In the three-tier architecture, the database tier's function is to
[A]
All of the others.
[B]
Execute the business logic of the organization operating the database.
[C]
Manage the interactions with the user.
[D]
Execute queries that are requested from the application tier.

Choose a right answer

[A]
When a privilege is granted, it cannot be revoked

[B]
Privileges cannot be granted on a view

[C]
An authorization ID may be granted privileges from others or may grve its privileges to others

[D]
All of the others

Which of the fallowings is part of data model?
[A]
Operations on the data
[B]
Constraints on the data
[C] *
All of the others |

[D]
Structure of the data

Exception handler in PSM is defined as follows:
DECLARE <where to go next> HANDLER FOR condition list> <statement>
The <where to go next> clause can be:
[A]
UNDO
[B]
EXIT
[C]*
All of the others
[D]
CONTINUE

In SQL language, the command/statement that let you add an attribute to a relation is_	
[A] Alter	

[B]
None of the others

[C]
Insert

[D]
Update

Choose the right statement	
[A] All of the others.	

[B]
The syntax to remove a trigger is. DROP TRIGGER <trigger_name>

[C]
Use ALTER TRIGGER to change the definition of a trigger

Consider the Dalalog rule H(xy) <- Sfx. y) AND x > 2 AND y < 6. Relation S(x y) has 3 tuples (2.3). (3.5). and (4.6). What is about H?
[A]
H has a tuple (2.3)
[B]
H has 3 tuples (2.3) and (3.5) and (4.6)
[C]
H has 2 tuples (2.3) and (3.5)
[D]*
H has a tuple (3.5)

Select the valid query to declare the foreign key presC# of the relation Studiolname. address. presC#) that references the cert of the relation MovieExeclname. address. cert#. netWorth):
[A]
All of the others.
[B]
CREATE TABLE Studio (name CHAR(30) PRIMARY KEY. address VARCHAR(256). presC# INT FOREIGN KEY):
[C]
CREATE TABLE Studio (name CHAR(30) PRIMARY KEY. address VARCHAR(256). presC# INT UNIQUE KEY REFERENCES MovieExec):
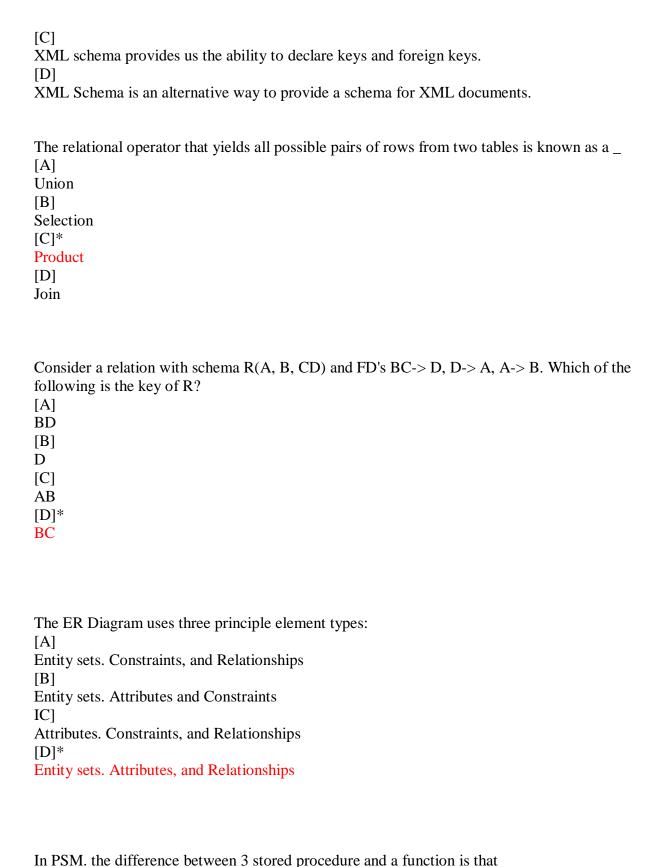[D]*
CREATE TABLE Studio (name CHAR(30) PRIMARY KEY. address VARCHAR(256). presC# INT REFERENCES Movie Exec (cert#));

Choose the right statement
[A]
XML Schema allows us to declare simple types, such as integer or float and even complex types
[B]*
All of the others

[C]
XML schema provides us the ability to declare keys and foreign keys.
[D]
XML Schema is an alternative way to provide a schema for XML documents.

The relational operator that yields all possible pairs of rows from two tables is known as a _
[A]
Union
[B]
Selection
[C]*
Product
[D]
Join

Consider a relation with schema R(A, B, CD) and FD's BC-> D, D-> A, A-> B. Which of the following is the key of R?
[A]
BD
[B]
D
[C]
AB
[D]*
BC

The ER Diagram uses three principle element types:
[A]
Entity sets. Constraints, and Relationships
[B]
Entity sets. Attributes and Constraints
IC]
Attributes. Constraints, and Relationships
[D]*
Entity sets. Attributes, and Relationships

In PSM. the difference between 3 stored procedure and a function is that
[A]

A function has the return statement.

[B]

We can declare local variables in a function.

[C]*

All of the others

[D]

Loops are not allowed in a function.

Selecl Ihe right syntax for HAVING clause in SOL

[A]

SELECT <list of attributes>

FROM <list of tables>

WHERE <conditions on tuples>

HAVING <conditions on groups>

GROUP BY <list of attributes>

[B]*

SELECT <list of attributes>

FROM <list of tables>

WHERE <conditions on tuples>

GROUP BY <list of attributes>

HAVING <conditions on groups>

[C]

SELECT < list of attributes>

FROM < list of tables>

HAVING <conditions on groups>

WHERE <conditions on tuples>

GROUP BY <list of attributes>

[D]

All of the others

Select the right answer.

[A]*

All of the others

[B]

Tags in XML are text surrounded by triangular brackets (for example, <_>).

[C]

An XML tag can be a single tag with no matching closing tag (for example.

[D]

Tags in XML comes in matching pairs, with an opening tag like <foo> and a matched closing tag like</foo>

Given relations R(A.B) and S(B.C.D). The result of natural join of the relations R and S has
[A]
Only two attributes R B and SB
[B]
None of the others
[C]
Only attribute B
[D]*
Attributes A B. C. D

Given relation U(A, B, C) that has 2 tuples (1,2,3) and (4,5,6), and relation V(B(C, D) that has 2 tuples (2,3,10) and (2,3,11). Choose the right answer below;
[A]
None of the others.
[B]
The outer join of U and V is the relation R(A, B, C, D) that has 2 tuples (1.2, 3.10) and (1,2, 3,11).
[C]*
The outer join of U and V is the relation R(A. B. C. D) that has 3 tuples (1.2.3.10) .(1.2.3.11) and (4.5.6. NULL).
[D]
The outer join of U and V is the relation R(A. B. C. D) that has only 1 tuple (NULL. 4.5.6).

Data Definition language (DDL) is used to _
[A]*
declare database schemas
[B]
connect to database and query database
[C]
query database and modify the database
[D]
All of the others

The result of (UNKNOWN OR TRUE) is
[A]
UNKNOWN
[B]
FALSE
[C]*
TRUE

[D]
NULL

In Java Database Connectivity (JDBC). before we can execute SQL statements), we need to _
[A]
Create a cursor.
[B]
Create an environment
[C]
Create a description.
[D]*
Establish a connection to the database and create statement(s).

Choose the right answer
[A]
A User-Defined Type (UDT) in SQL can be the type of a table
[B]
A UDT can be the type of an attribute belonging to some table
[C]
The form of UDT definition is: CREATE TYPE T AS (<primitive type | attribute declarations>)

[D]*
All of the others

Choose a right answer
[A]
The object-relational model is the extension of the relation model with new features such as structured types, methods, identifiers for tuples, and references
[B]
Object-relation model allows a non-atomic type that can be a relation schema which is called nested relation
[C]
In object-relational model, the type of an attribute can be a reference to a tuple with a given schema or a set of references to tuples with a given schema
[D]*
All of the others

Which of following is never used as a data model'

[A]
Hierarchical data model
[B]
Relational data model
[C]
Tree-based data model
[D]
Graph-based data model
|[E]*
None of the others

Select the right answer
[A]
Virtual views do not exist physically
[B]
Virtual views are defined by an expression like a query
[C]
Virtual views can be queried and can even be modified
[D]*
All of other

Select the right statement to declare MovieStar to be a relation whose tuples are of type StarType. Note; StarType is a user-defined type that has its definition as follows;
CREATE TYPE StarType AS (
nameCHAR(30).
address CHAR(IOO) };
[A]
CREATE TABLE MovieStar (name StarType).
PI
CREATE TABLE MovieStar (name StarType PRIMARY KEY);
[C]*
CREATE TABLE MovieStar OF StarType Q;
[D]
None of the others

Suppose an updatable view ParamountMovies is associated with Movies relation. Choose a right answer
[A]*
Drop Movies relation also delete the view ParamountMovies
[B]

Drop ParamountMovies also delete Movies
[C]
An update on ParamountMovies is translated into Movies
[D]
None of the others

****

The most useful index on a relation is an index on its key. This is because
[A]
The index on non key attribute(s) runs slower
[B]
The search operation based on the primary key is commonly used.
[C]
The index on non key attribute(s) makes update operations to the relation more complex and time-consuming
[D]
All of the others

Which of the following statements is true?
[A]
3NF implies BCNF
[B]
Multi-valued Dependency (MVD) implies Fourth Normal form (4NF)
[C]*
4NF implies BCNF and BCNF implies 3NF
[D]
None of the others

The binary relationship between classes in UML is called -
[A]
Relation
[B]*
Association
[C]
Aggregation
[D]
Composition

Choose the right statement

[A]

Sub-queries return a single constant this constant can be compared with another value in a WHERE clause

[B]

Sub-queries return relations, that can be used in WHERE clause

[C]

Sub-queries can appear in FROM clauses, followed by a tuple variable

[D]*

All of the others

Which of the following statements is true?

[A]

in BCNF condition, the left side of every non trivial FD must be a super key.

[B]*

All of the others

[C]

Any two-attribute relation is in BCNF

[D]

BCNF condition guarantees the anomalies do not exist

Given the relation Movies(title, year, length, genre. studioName). Select the right query to create a View with the titles and studio names of all movies that were produced in 1980

[A]

CREATE VIEW OldMovies SELECT title. studioName FROM Movies WHERE year-1980

[B]

CREATE VIEW OldMovies SELECT title, year FROM Movies WHERE year=1980

[C]*

CREATE VIEW OldMovies AS SELECT title. studioName FROM Movies WHERE year=1980

[D]

None of the others

Given the relation Employee(SSN. FNAME. LNAME. SALARY. DepartmentNo). Select the right query below to count the number of employees in each department

[A]

SELECT COUNTf) FROM Employee

[B]*

SELECT DepartmentNo. COUNT(*) FROM Employee GROUP BY DepartmentNo

[C]
SELECT DepartmentNo. COUNT(*) FROM Employee
[D]
None of the others

Consider a relation with schema R(A, B. C. D) and FD's A-> B. A-> C. C -> D. Which ofthe
following is the {A}+ ?
[A]
{A}
[B]*
{A B C D}
[C] {A. B. C}
[D] {A.B}

To create a constraint (for example, referential integrity constraint) on a relation, the owner ofthe
schema must have
[A]
UNDER privilege
[B]*
REFERENCES privilege
[C]
UPDATE privilege
[D]
EXECUTE privilege

Choose a wrong answer.
[A]*
Relational algebra can express recursion.
[B]
Basic relational algebra can be expressed in Datalog rule(s).
IC]
Single Datalog rule can be expressed in relational algebra.
[D]
Datalog does not support bag operations.

In DTD. the main difference between PCDATA and CDATA is
[A]*
PCDATA is text that will be parsed by a parser and tags inside the text will be treated as markup and entities will be expanded CDATA is text that will NOT be parsed by a parser and tags inside the text wil
NOT be treated as markup and entities will not be expanded.
[B]
All of the others.
[C]
CDATA is used to assert something about the allowable content of elements where as PCDATA is used as a common type for attribute
[D]
There's no difference between PCDATA and CDATA.

_____authorizes access to database, coordinate, monitor its use, acquiring software, and hardware resources.
[A]
All of the others
[B]*
Database administrator

[C]
Database designer
[D]
Database end-user

The key for a weak entity set E is_
[A]*
Zero or more attributes of and key attributes from supporting entity sets

[B]
The set of attributes of supporting relationships for E
[C]
The set of attributes of supporting entity sets
[D]
Zero or more attributes of E

Choose right answer(s).
[A]
NULL value is unknown, inapplicable, or withheld
[B]
Comparisons with NULL values will return UNKNOWN
[C]
Arithmetic operators on NULL values will return a NULL value
[D]*
All of orther

Choose the right statement
[A]
The action associated with the trigger executes no matter what the condition is hold or not
[B]
Triggering events do not support INSERT and DELETE.
[C]
All ofthe others.
[D]*
When the trigger is awakened, it tests a condition. If the condition is satisfied, the action associated with the trigger is executed.

Four characteristics of transactions are
[A]
None ofthe others
[B]
Read uncommitted, Read committed, Repeatable read, Serializable
[C]
Atomicity. Isolation. Concurrency. Durability
[D]*
Atomicity. Isolation. Consistency. Durability

Select the right answer
[A]
An index is a data structure used to speed access to tuples of a relation, given values of one or more attributes
[B]

The key for index can be any attribute or set of attributes, and need not be the key ofthe relation
[C]
We can think of the indexas a binary search tree of (key, locations) pairs in which a key a is associated with a set of locations of the tuples
[D]*
All of orther

Choose the right statement to grant the INSERT and SELECT privileges on table Movies to users torn' and jerry'
[A]
GRANT SELECT. INSERT on Movies
[B]
GRANT SELECT. INSERT on Movies TO torn, jerry CASCADE
[C]*
GRANT SELECT. INSERT on Movies TO torn, jerry WITH GRANT OPTION
[D]
GRANT SELECT. INSERT on Movies TO ALL

When declaring foreign key constraint for relation A thai references relation B. the referenced attribute(s) of the relation B must be declare as_____
[A]*
UNIQUE or PRIMARY KEY
[B]
FOREIGN KEY
[C]
INDEX KEY
[D]
All of the others

Choose an incorrect statement
[A]*
None of the others
[B]
Database is created and maintained by a DMBS
IC]
Database is a collection of information that exists over a long period of time
[D]
Database is a collection of data that is managed by a DBMS

Select the right statement
[A]*
All of the others
[B]
Every constraint has a name. If we don't define constraint's name explicitly, then DBMS automatically generates a name for it
[C]
We can create constraint on a tuple as a whole.
[D]
We can create constraint on a single attribute

A class in UML is similar to___
[A]
A Relationship in E/R model
[B]
An attribute in E/R model
[C]*
An entity set in E/R model
[D]
None ofthe others

Given relations Movies(title, year, length, genre. studioName. producer#). MovieExec(name. address. cert#). and Studio(name. address. presC#). Suppose we have the materialized view that finds the name -
ofthe producer of a given movie as follows:
CREATE MATERIALIZED VIEW MovieProd AS
SELECT title, year, name
FROM Movies. MovieExec
WHERE producer# – cert#
Which of the following modification will affect the MovieProd materialized view?

[A]
Insert a new tuple into Studio
[B]
Delete a tuple from Studio
[C]*
Insert a new tuple into Movies or delete a tuple from Movies
[D]
None of the others